Conjoined with this fundamental one, we find in all bodies an indefinite number of other properties, such as attraction and repulsion, chemical affinity and degrees of cohesion, producing the gaseous, the liquid, and solid states, with certain powers in reference to light, heat, and electricity. By these properties, '*bodies are capable of producing changes on each other.*' This production of changes is not variable or capricious, but follows certain fixed laws. Bodies, simple and compound, separate and in union, in mechanical and chemical combination, change and are changed according to certain rules. These are the *properties* of the substance, and all bodies have their definite and measurable properties, that is, a determinate method of producing changes on each other. Such is the very constitution of material substances, and such the very constitution of the world as consisting of these substances. " Nothing/' says Bacon, " exists in nature except individual bodies, producing pure individual acts, according to the law which governs them/'[7*]

In looking more narrowly into the nature of these properties, we find that no given body acts upon itself. Bodies, when they act, act upon each other. Putrefaction and similar processes may seem an exception, but they are so only in appearance, for in all such cases, the separate elements of which the body is composed act on one another. Could we take any one body, or particle oi a body, and separate it from the action of all other bodies, it would continue in the state in which we have put it for ever. In order to a change in that body, there must be another body operating upon it. It thus appears that the powers which one body has of changing another, or of being itself changed, constitute the properties of the body, and that all the properties o: any given body have a reference to some other body or bodies and to the production of change upon that body or

these bodies
The only exceptions that we can think of are to be found in thos<
properties of matter by which it affects mind, and the quality of ex
tension, which has a reference to space rather than to other mattei

In order to action, to change, there must therefore be inor than one body. There is not, so far as we can see, a self-actirij material substance in nature. It is the first law of motion—tha is, of all the mechanical sciences—that a body will continue 5: the state in which it has been put whether of motion or rest, fu